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IR 75-13

Approved For Release 2004/03/05 : CIA-RDP86T00606R000700080017-0

Aug 75

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1 of 1

India's Navy in Transition: Pros. & Probs. for a Regional Force

SR IR 75-13

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Intelligence Report

*India's Navy in Transition:
Prospects and Problems for a Regional Force*

~~Secret~~

SR IR 75-13
August 1975

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India's Navy in Transition: Prospect and Problems for a Regional Force

Summary

India is striving to expand and upgrade its navy, already the dominant indigenous naval force in South Asia, in the belief that it can thus gain a larger voice in decisions affecting the greater Indian Ocean area. Although the navy will improve its capabilities in the next few years, it is likely to remain limited to a regional role.

The Indian navy is organized as a coastal patrol, escort, and anti-submarine force with missions of defending India's territorial and coastal waters and protecting its coastal shipping routes.

India assesses Pakistan as its most likely threat, and hence deploys most of its naval forces from the west coast base at Bombay, which is also the navy's principal repair facility. Naval facilities are being improved and expanded there and elsewhere. Soviet technicians have assisted in the development of a naval complex on the east coast at Vishakhapatnam, and several construction projects are under way in the Andaman and Nicobar Islands in the Bay of Bengal.

Foreign aid will continue to be a major determinant of India's success in building a more powerful naval force. India has never been able to meet the navy's needs alone, and this situation is unlikely to change soon. In recent years a large quantity of naval equipment has been bought from the USSR, the primary source of weapons since imposition of the US-UK arms embargo in 1965. Under a 1975 Indo-Soviet arms agreement, New Delhi reportedly will receive maritime reconnaissance aircraft, minesweepers, anti-submarine warfare helicopters, guided missile destroyers or cruisers, and patrol guided missile boats.

Wary of the political perils of dependence on a single arms supplier, India has been circumspect about its naval ties with the Soviets and has sought to confine the interchange to that dictated by need. It has fended off attempts to develop the relationship into anything like the intimacy of the erstwhile Indo-British association. Specifically, New Delhi has consistently rebuffed direct Soviet requests for long-term use of Indian port facilities. Moscow probably will use the proposed expansion of US facilities at Diego Garcia as an argument for obtaining the use of Indian port facilities. The Soviets recognize India's caution but remain alert, after nearly a decade of military cooperation, for a chance to gain special privileges.

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
August 1975

INTELLIGENCE REPORT

India's Navy in Transition: Prospects
and Problems for a Regional Force

Introduction

Motivated by a new perception of its strategic environment, India is taking steps to upgrade and expand its navy. Advocates of naval expansion see a more powerful navy as a means to augment India's position of dominance on the subcontinent--reinforced by the 1974 explosion of a nuclear device--and to enhance its influence on developments in the greater Indian Ocean area. New Delhi has watched with concern the Indian Ocean operations of US, Soviet, and French naval forces in the aftermath of Britain's withdrawal of its military presence east of Suez. India is also keenly aware of the burgeoning strength of the Iranian navy and of Tehran's expressed interest in the Indian Ocean. And on the horizon, some Indian estimates foresee the arrival of Chinese naval units in the area.

This report assesses the Indian navy's current capabilities and reviews its efforts to expand and improve. In particular, India's naval aid relationship with the Soviet Union is examined. The study concludes with a discussion of the navy's prospects for fulfilling its aspirations.

Comments and queries regarding this publication are welcome. They may be directed to [REDACTED] the Middle East/South Asia Branch, Office of Strategic Research, code 143, extension 4287.

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**Performance of the Indian Navy in the War with Pakistan
3-17 December 1971**

India's aspirations to naval power were reinforced by its navy's performance in the 1971 conflict with Pakistan. In the first combat engagement of its existence, the navy seized the initiative, inflicted on the Pakistanis major losses far out of proportion to its own, and quickly gained superiority in the Bay of Bengal and Arabian Sea.

The Indian navy was innovative in the use of its Osa class guided missile patrol boats as offensive rather than defensive weapons. A naval task force of four Osas, a cruiser, and eight destroyer escorts attacked a Pakistani patrol south of Karachi on 4 December and with Osa-borne Styx antiship missiles sank a destroyer and a minesweeper. Having no counter to the Osas, the commander in chief of the Pakistani navy ordered most of his first-line ships into Karachi harbor and offered no further contest.

On 8 December, the Indian group boldly approached Karachi and launched Styx missiles into the merchant ship anchorage area, sinking one ship and damaging three others. The missiles also ignited petroleum storage tanks at a nearby refinery.

In the east, Indian forces functioned virtually unchecked from the outset and rapidly neutralized Pakistani naval contingents at Chittagong and Chalna with air strikes launched from the carrier Vikrant. Pakistan's one fleet submarine, the Ghazi, a former US unit of the Tench class, shadowed the carrier when it deployed from the west coast to the east coast prior to the outbreak of hostilities. But the submarine sank on the first night of the war—possibly because of a torpedo handling accident, although the Indians took credit for its destruction.

India's only war loss was a destroyer escort torpedoed by a Pakistani Daphne class submarine.

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Motives for Naval Expansion

New Delhi's steps to expand and upgrade its navy have been motivated by the perception of a changed strategic environment. For many years, India assigned a relatively low priority to developing its naval forces. The Indian army and air force had overriding requirements, and New Delhi was preoccupied with possible overland threats from China and Pakistan.

In the late sixties, India's naval ambitions were stimulated by the withdrawal of Britain's military presence east of Suez. The Indians became concerned that nonregional powers would be tempted to vie for a position of dominant influence in the Indian Ocean--a competition they believe would imperil the security of the littoral states, exacerbate local tensions, and interfere with India's own aspirations for preeminence. But New Delhi's protests against encroachments and its support of an Indian Ocean zone of peace--from which nuclear weapons, foreign warships, and military bases would be banned--have failed to prevent foreign intrusion. Advocates of naval expansion have argued that a potent Indian force would dispel notions of a power vacuum in the area, reduce temptations of the great powers to increase their naval presence there, and give India a larger voice in decisions affecting the region, further enhancing its general position of dominance on the subcontinent.

Rival Naval Forces

The Indian navy proved that it is South Asia's most powerful naval force by its impressive victory over Pakistan in 1971 (see box). Pakistan has since improved its navy somewhat, but it is still a small force, limited to escort, minesweeping, and coastal patrol functions. The Indians would win any renewed conflict with Pakistan today, and the disparity between the two navies is likely to increase with time. Still, the Indians keep a watchful eye on the Pakistani force and will be concerned if it acquires more advanced weapons or expands significantly.

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The Iranian navy also is of concern to India because of its share in a massive military expansion program. Tehran now has the largest and most capable naval force in the Persian Gulf, and the Shah has stated that Iran's security frontier extends into the Indian Ocean. Talks and economic agreements in recent years have warmed Indo-Iranian relations, but New Delhi clearly remains wary of Iran's intentions regarding a future role in the Indian Ocean.

25X1C The Indians consider that Iran could be a source of naval weapons and support for Pakistan in the event of renewed Indo-Pakistani hostilities. In point of fact, [REDACTED] the existence of a mutual defense assistance agreement between Pakistan and Iran--probably concluded in mid-1973--[REDACTED] stipulates that Pakistan would receive limited military assistance for defensive purposes in the event of an attack by India or Afghanistan or both. Naval aid would include "men-of-war," reconnaissance of waters of mutual interest, and logistical support for Pakistani ships.

25X1C India is keenly aware that the US and Soviet navies have become more prominent in the Indian Ocean since the British withdrawal. The Indians oppose major reinforcement of either force, and they are apprehensive about an unending naval arms race. They were alarmed when both the US and Soviet naval contingents were enlarged during the Indo-Pakistani war in 1971 and following the Arab-Israeli conflict in 1973.

The USSR has maintained a small task force in the Indian Ocean continuously since 1968, but any Soviet plan for extended deployments of significantly larger naval forces has apparently been constrained by prior commitments of naval forces to other areas, the long steaming time to the area from the home waters of the various Soviet fleets, the lack of a local repair facility, and the costs, both economic and political, of deploying a large force there. Although the reopening of the Suez Canal diminishes some of the logistical problems associated with maintaining an Indian Ocean presence and gives Soviet

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naval power added flexibility, it will not in and of itself cause the Soviet force there to be enlarged. The Soviets have failed in attempts to gain regular access to Indian port facilities but do routinely use Berbera in Somalia for replenishment, crew rest, and emergency repairs. In addition, the Soviets make limited use of ports at Basrah and Umm Qasr in Iraq and at Aden.

US naval ships in the Indian Ocean, attached to the Middle East Force, have been home-ported at Bahrain in the Persian Gulf since the late forties. The Bahrain government notified Washington after the Arab-Israeli war in 1973 that the port would be unavailable to US forces after October 1974, but then agreed to allow continued access, at least until 1977. The US intends to expand the facilities at British-owned Diego Garcia in the Chagos Archipelago, where a small naval communications station is now located.

The prospect of a Chinese naval presence in the Indian Ocean is especially unwelcome to New Delhi. Knowledgeable Indians, discounting reports that Chinese submarines have appeared in the Arabian Sea and Bay of Bengal, do not believe that China's navy currently poses any threat. Some Indian estimates allege, however, that by 1980 China will be seeking naval facilities on the Indian Ocean littoral. These reports speculate that, even without such installations, Chinese nuclear submarines eventually could menace the subcontinent and India's maritime trade routes--a threat that would not materialize until the mid-eighties according to current US National Intelligence Estimates.

Current Missions and Deployments

The Indian navy is organized as a coastal patrol, escort, and antisubmarine force in furtherance of its missions of defending India's coastal and territorial waters and protecting coastal shipping. (See chart, next page.) To counter a possible attack from Pakistani naval forces, the bulk of the fleet is deployed from

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INDIAN NAVAL COMMAND ORGANIZATION

CHIEF OF NAVAL STAFF

Naval Headquarters
New Delhi

**Western Naval Command
Bombay**

Commander in Chief
(flag officer)

**Southern Naval Command
Cochin**

Commander
(flag officer)

**Eastern Naval Command
Vishakhapatnam**

Commander in Chief
(flag officer)

Western Fleet
Commander
(flag officer)

Eastern Fleet
Commander
(flag officer)

Ships at Bombay

Shore establishments at:

Bombay
Okha
Jamnagar
Lonavla

**Ships, aircraft and
shore establishments at:**

Cochin
Mormugao
Coimbatore

Ships at Vishakhapatnam

Shore establishments at:

Calcutta
Vishakhapatnam
Madras
Andaman and Nicobar Islands

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Bombay, the headquarters of the Western Naval Command. (See foldout map.) Most of the other ships are based in the Eastern Naval Command at Vishakhapatnam and Port Blair. A token contingent is stationed at Cochin, headquarters of the Southern Naval Command.

The navy is continuing to make some changes in deployments, although most of the force will probably remain in the Western Naval Command. Until the early seventies, Soviet-built combatants were based on the east coast and former British ships were stationed on the west coast, in part because Moscow insisted on restricting third-country access to ships it provided, but also for logistical reasons. The continuing expansion and improvement of facilities have allowed the navy to align deployments more closely with tactical requirements. Disregarding the Soviet prohibitions, the Indians moved Osas from Vishakhapatnam to Bombay just before the 1971 war. Petyas and submarines received in the postwar period have been based at Bombay as well.

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in the future the navy will station some Osa guided missile boats at Vishakhapatnam to augment surface forces in the east. The navy may also permanently assign a few Osas, Petyas, and submarines to the Andaman Islands to enhance capabilities to monitor traffic transiting the Straits of Malacca.

Basing and Support

Bombay is the location of the Indian navy's principal operating and repair base. Expansion of the crowded naval base and dockyard facilities there has been in progress for years, but some Indian navy officials complain that it has not kept pace with the demands of the growing fleet.

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Nonetheless, repair and

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overhaul facilities have been improved, and completion of current construction projects will enhance the capabilities of the base to service the force.

The navy is gradually expanding and upgrading other facilities. Soviet technicians have assisted in developing the complex at Vishakhapatnam, which comprises a naval base, dockyard, and training center. Work on the base started in 1965, but the entire complex will not be operational for several more years at the present rate of construction.

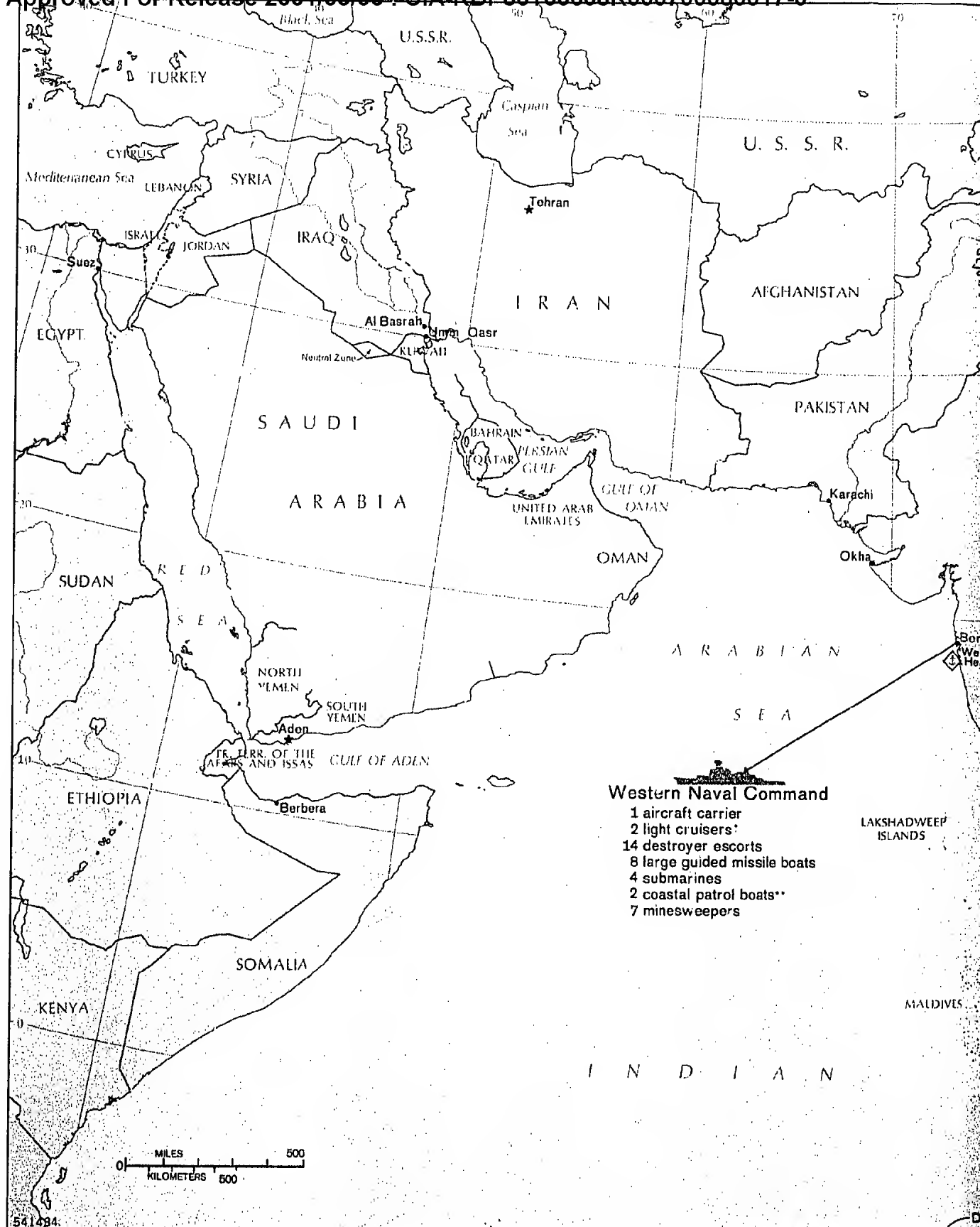
Several naval construction projects are under way or have been completed in the Andaman and Nicobar Islands, about 750 nm east of India in the Bay of Bengal. Expansion of the installation at Port Blair on South Andaman Island, including a naval station and repair facilities, is continuing. A naval garrison and supply depot are being built on Camorta Island in the Nicobars, also the site of a naval station. An airfield and supply depot are located on Car Nicobar Island. In addition, coastal batteries reportedly are being constructed in the island chain.

Relatively minor changes have been made so far to facilities at Mormugao, Cochin, Calcutta, and Madras. The navy is developing a small forward base near the Indo-Pakistani border at Okha, which was used as a staging area for Osa guided missile patrol boats during the 1971 conflict. 25X1C

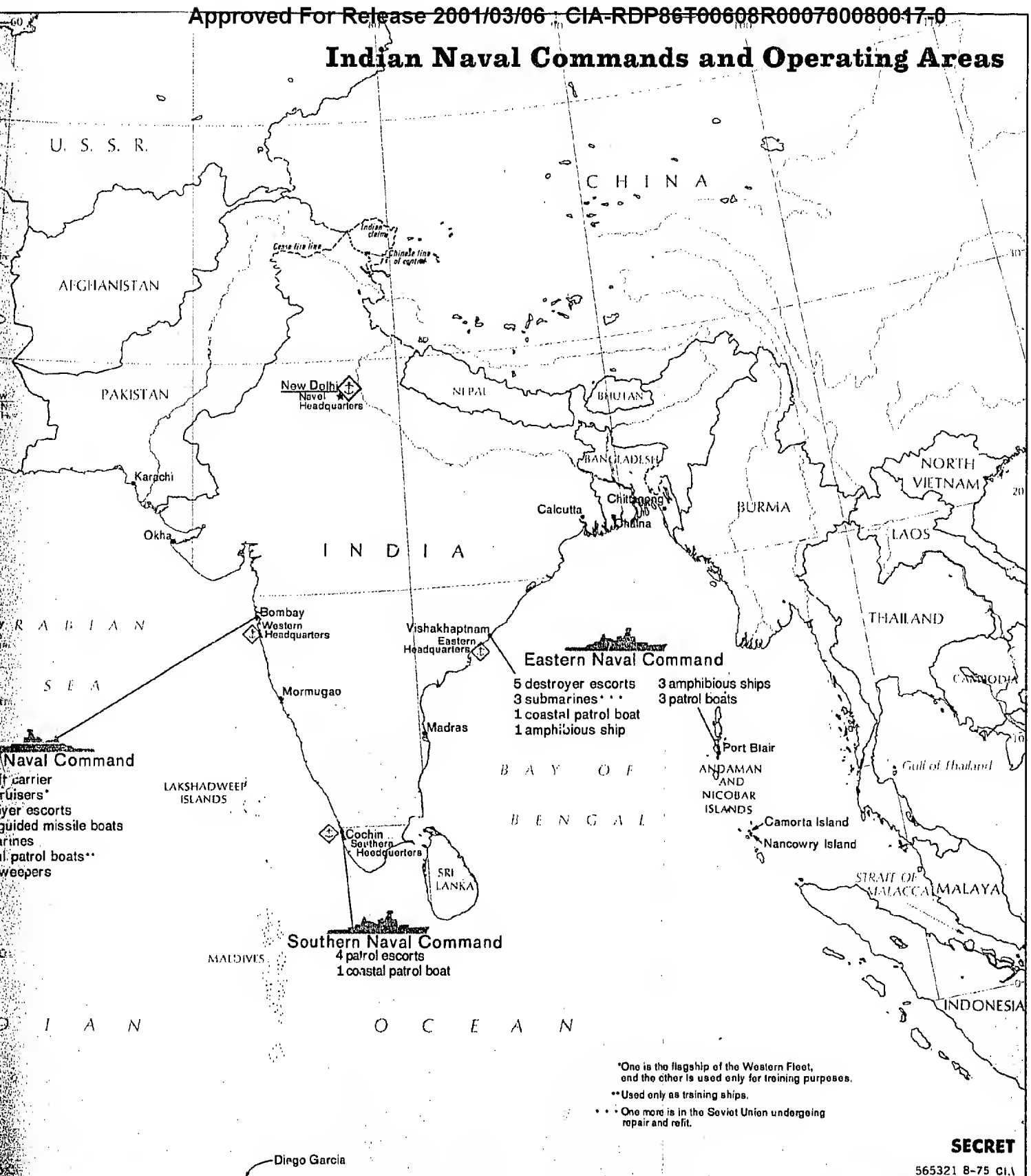
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the navy in the early seventies proposed projects for a 15-year development plan--establishing a naval air station at Madras, developing a base for minesweepers and patrol boats at Haldia, building local naval facilities at Mangalore and Tuticorn, and creating a naval presence in the Lakshadweep Islands.*

* Some military construction is reported to be in progress on two islands in the Lakshadweep chain, but it may be an air force project.



Indian Naval Commands and Operating Areas



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But there is no evidence that the government has sanctioned any of these schemes.

Capabilities and Shortcomings

The Indians are moving to correct shortcomings in their navy's defensive capabilities and to upgrade its modest offensive capabilities. By Western standards much more would be required, but the deficiencies must be viewed in relative terms. By regional criteria, the navy is already a capable--and the dominant--force.

Inventory. The navy has some comparatively modern and capable ships and aircraft, including F class submarines, Osa class guided missile patrol boats, and Petya class destroyer escorts from the USSR; British-designed Leander class frigates, and British antisubmarine helicopters. *(A listing of ships by type and class is appended.)* Yet much of the inventory is obsolescent because the Indians have sought to use their equipment as long as possible. Several of the British-built warships, dating from the forties and fifties, are rapidly approaching retirement age. Three Emergency class destroyers and two Hunt II patrol escorts were scrapped during the past two years. The remaining Hunt patrol escort now functions as a training ship. Several of the oldest ships--a Leander class cruiser launched in 1932 and a River class and two modified Black Swan class patrol escorts completed in 1943--are used only for training. Five of the navy's seven minesweepers are nearly 20 years old, and its LST(3) class tank landing ship was built during World War II. The navy's original force of about 60 Sea Hawk fighter-bombers has dwindled to a total of little more than 21 aircraft, and few of them are operational at any one time.

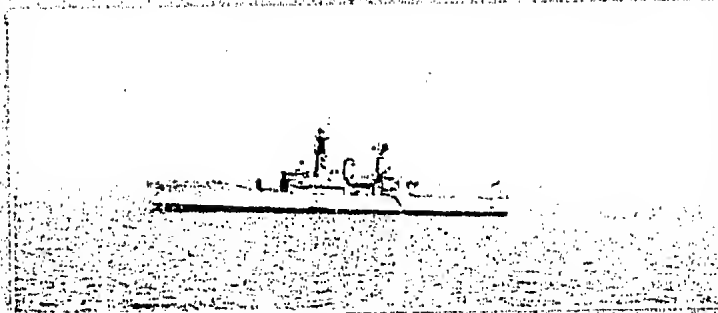
Antisubmarine Warfare. Even though India's anti-submarine capability is adequate to overcome the threat of Pakistan's few submarines, New Delhi is anxious to correct some deficiencies. For reasons of security, only minimal tactical information accompanied the British and Soviet ASW equipment supplied to the Indians, who have yet to develop a fully satisfactory antisubmarine tactical doctrine of their own.

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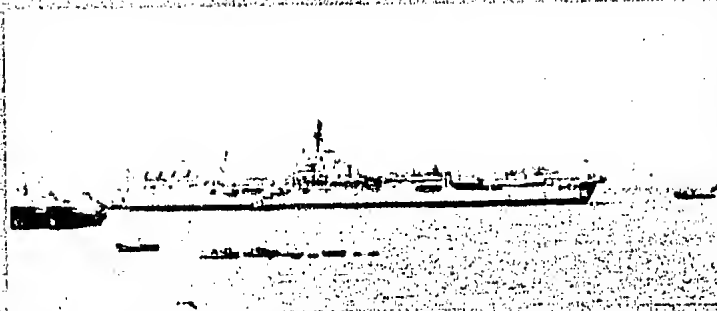
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INDIAN NAVAL COMBATANTS



INS Himgiri
Leander Class DEH
(ASW Helicopter Destroyer Escort)
14 April 1974 Bombay



INS Vikrant
Small A/C Carrier
9 April 1969



INS Nirghat
OSA-I Large Guided Missile Boat
April 1974 Bombay

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Training time of submarines with the Western Fleet and aircraft was limited so long as India's submarine force was home-ported on the east coast, but basing of some submarines at Bombay has alleviated this problem.

Dependent for maritime patrol on nine Super Constellations under the control of the air force, the Indians are ill prepared to conduct effective or frequent long-range searches for submarines. 25X1X6

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Missions are flown on an "on-call" basis. Navy requests for searches must be approved by an Indian air force authority in Bombay, which then relays instructions to the operational squadron, based about 80 miles southeast of Bombay. The Super Constellations rarely conduct searches more than 200 to 300 miles from the coast. Although the aircraft stage to other airfields for operations in eastern and southern waters, they probably are deployed most readily and most often over western waters--the Arabian Sea, the area of greatest concern.

During the past decade, the navy has acquired ships and aircraft with sonar systems that have enhanced its capabilities for the second phase of anti-submarine operations--localization. While continuing their efforts to procure improved sonar systems, the Indians are making some changes in deployments to take advantage of the more capable equipment already obtained. For example, one squadron of Sea King helicopters, equipped with a dipping sonar--a versatile but short-range detection system--probably will be assigned to the carrier Vikrant. Still, units with inadequate sonar--such as some of the old British-built

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combatants--remain in the inventory. Their vulnerability was made evident by the loss to a Pakistani submarine of a Blackwood class destroyer escort during the 1971 war.

Having located an enemy submarine, the navy can attack it with a variety of weapons, including mortars, rockets, depth charges, and ship- and aircraft-launched torpedoes. Most of the former British ships are equipped with less effective depth charges and mortars, but Soviet-supplied Petyas are armed with rocket launchers, and F class submarines carry antisubmarine torpedoes. Western-designed Sea King and Alouette-III helicopters are equipped with light-weight MK.44 torpedoes.

Minesweeping. The Indian navy has a shortage of minesweepers. All seven minesweepers--four coastal and three inshore boats--are stationed in Bombay, and any other area would be, at least initially, without countermeasures to a mining attack. The Pakistanis laid mines in Bengalee waters during the 1971 war, and the Indians had trouble clearing them because of the characteristics of the mines and local conditions. The Pakistanis possess a limited minelaying capability, however, and they probably could not cripple the Bombay port area with mines.

Air Defense. The navy's ability to defend the fleet against air attack is weak but improving. Perhaps its best weapon for this is the Seacat surface-to-air missile--a point defense system with a maximum effective range of about 14,000 feet. Yet only the two in-service Leander class destroyer escorts are armed with the system. Dual-purpose naval guns and fire control systems on several of India's British-designed combatants can deliver fire up to about 38,000 feet, but these obsolescent guns have a rate of fire of only some 15 to 20 rounds per minute. The 76.2mm guns aboard the Petyas have a rate of as many as 90 rounds per minute for brief periods,* and their vertical range of about 45,000 feet is the longest in the navy. To intercept hostile aircraft beyond the range of the antiaircraft guns, the navy might call for protection by air force fighters, depending

* Reloading requirements limit the actual duration of fire to about one half minute.

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on fleet deployments. The carrier-borne Sea Hawk fighters are intended primarily for strike operations, and alone they could offer only a thin line of defense for the fleet.

Antiship Missions. Osa class patrol boats with Styx antiship guided missiles give the Indian navy a capability against surface ships unmatched in South Asia. The seakeeping limitations of these boats effectively confine them to coastal deployments, but this was the field of operations in the 1971 war, and the navy was able to exploit the best characteristics of the Osas.

Carrier Operations. The aircraft carrier Vikrant provides prestige as the only ship of its type in the northern Indian Ocean and offers the potential of extending somewhat the navy's strike capability. It can accommodate up to 10 obsolescent Sea Hawk fighter-bombers in addition to six to eight antisubmarine warfare aircraft. The ship itself has suffered from engineering problems, especially in its boiler system, but the boilers were replaced in the course of a recently completed general refit, and the navy plans to keep the carrier in service for at least another decade.

Amphibious Warfare. Three Polnocny-II class medium landing ships and an LST(C) class tank-landing ship offer the potential of a minor capability for amphibious warfare, and in fact, the navy did make a small amphibious landing in what is now Bangladesh during the 1971 war. The Indians have no naval infantry units, however, and use the ships mostly for transport and logistical tasks. There is little need to develop an amphibious capability and, even after receipt of three more Polnocnys on order from Poland, the navy most likely will continue to use the ships as it does now.

Repair and Maintenance. Problems with repair and maintenance have downgraded the operational readiness of the fleet. [REDACTED]

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the successful performance of the navy in the hostilities of 1971 could be partially attributed to advance

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preparation which permitted the readying of ships for combat.* Navy officials have complained that repairs --frequently needed for the overage combatants--are often behind schedule or poorly done.

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Still, the navy has found the overhaul and repair of even some of its newer ships a burden. For example, until the repair facilities at Vishakhapatnam are completed, the Indians are unable to undertake the refit and overhaul of their F class submarines, and they have asked the Soviets to do the work on three in the USSR. One Indian submarine arrived at the shipyard in Vladivostok in December 1974, but whether Moscow has agreed to repair two more is unknown.

Logistics. There are shortcomings in the navy's logistic system. The risk inherent in overreliance on Bombay for supplies and repairs--a dependence that would hinder extended combat operations if the fleet were denied access to the base--is diminished by the unlikelihood that any regional fleet could enforce such a blockade. For support operations at sea, the navy has a replenishment oiler, a submarine tender, and a submarine rescue ship, but these ships would be unable to satisfy the requirements of a large task force for fuel and minor repairs, and some naval ships would have to return to shore bases.

Because the navy obtains many of its spare parts from foreign sources and delays in shipments are common, it has trouble keeping adequate stocks on hand for its diverse inventory. In the event of a conflict, the navy could be faced with the prospect of curtailed supplies. Still, the Indians have steadily increased the output of locally manufactured

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items for their navy, and this indigenous production capacity has extended the period through which India could sustain naval combat operations, currently estimated at about two months.

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Tropicalization. Operations in tropical waters have posed problems for the Indian navy. [REDACTED]

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[REDACTED] the navy's ships had been designed to function in temperate climates, called for priority attention to air conditioning of appropriate spaces in ships not yet tropicalized to prevent the degraded performance and premature aging of electronic equipment.

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Sources of Supply

India's ambition to improve and expand its navy has been hampered both by its slow progress toward self-sufficiency in production of naval equipment and by difficulties in acquiring foreign-made equipment. Although foreign assistance will remain the only practical means of upgrading the navy in the foreseeable future, there are constraints including the unavailability--for a variety of reasons--of particular items of equipment, a relatively small naval budget,* and New Delhi's reluctance to draw down its foreign exchange reserves, particularly in light of the additional outlays necessary for oil, food, and fertilizer.

Soviet Aid Terms. The terms on which the Soviets supply military aid to India are more favorable than those of Western arms suppliers. Moscow generally has required a 10 percent payment on delivery, with

* Although the defense expenditures of the navy increased by 300 percent between fiscal years 1968 and 1975 (compared with about 131 percent for the air force and 71 percent for the army), its share of the total defense budget is still small--about 9 percent. The air force allocations in 1975 amounted to 20 percent of the budget and the army received 63 percent. (India spent \$2.96 billion--23.09 billion rupees--for defense in FY75, about 3.8 percent of its GNP.)

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the balance financed under a 10-year credit at about 2 percent interest. Moreover, India can pay for most of the material via a form of barter in which the amounts earned or owed as a result of Soviet-Indian trade in commodities are recorded in a debt-clearing account in India. This system avoids a direct drain on India's reserves of foreign exchange. (In some cases, however, New Delhi might earn hard currency by selling some of these commodities in international markets.)

At the end of 1974, India had an outstanding military debt to the USSR of approximately \$650 million, and its debt payment obligation in 1974 for military aid was about \$100 million. A new military aid agreement concluded in February 1975 has added \$200 to \$500 million to India's military account with the Soviets. The Indians in late 1973 asked the USSR to liberalize the terms of its military aid by granting a repayment moratorium of two years, extending loan periods to 15 years, and removing interest charges altogether. But this appeal and another in September 1974 to ease payment schedules on debts already accumulated apparently were rejected.

Status of Soviet Deliveries. Soviet aid to the Indian navy has included ships, training, and technical assistance. Under the initial contract of September 1965, India received five Poluchat-I class motor gunboats, four F class submarines, an Ugra class submarine tender, five Petya class destroyer escorts, and two Polnocny-II class landing ships. Eight Osa class guided missile patrol boats and a submarine rescue ship were delivered under a February 1969 agreement. Moscow agreed in October 1971 to supply another four submarines and five Petyas, delivery of which was completed in early 1975. A few crews for Petyas and submarines were trained in the Soviet Union before Moscow helped to establish and initially staff the training facility at Vishakhapatnam for successive crews. Some Osa crews also received training in the USSR.

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[REDACTED] the Indians ordered another eight Osas in early 1972 for delivery

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starting about 1975, and negotiations for them are known to have continued at least into 1973. An Indian request in early 1974 to fit the Osas "already on order" with more advanced missiles and to convert one to a command-and-control ship indicates that a contract was signed, although the delivery schedule finally decided on is unknown.

The conclusion of a new arms agreement during Soviet Defense Minister Grechko's visit to India in February 1975 follows several years of intensive efforts by the Indians to procure still more Soviet naval equipment. New Delhi sent several delegations to the Soviet Union, including one in August 1972 and a follow-up group in March 1973. Then the Indians sent a detailed list of "urgently needed" naval arms just before a visit to Moscow by Defense Minister Jagjivan Ram in July 1973, but Ram failed to obtain a substantive commitment. He and Admiral S. N. Kohli, chief of the Naval Staff, next submitted special requests for the equipment directly to their Soviet counterparts in August 1973. More discussions on arms were held during Brezhnev's visit to India in late November 1973 and when Kohli flew to Moscow in early 1974. Defense Secretary Govind Narain headed a follow-up delegation in April 1974, Kohli led yet another in October 1974, and Narain went back to Moscow in December 1974.

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[REDACTED] the USSR will supply most of the naval equipment India has been seeking from the Soviets. There are still several unknowns in the equation, however, including specific types and amounts of some of the items to be delivered.

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-- Guided missile destroyers or cruisers:

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[REDACTED] Moscow will begin delivery in 1978 of large warships at the rate of one per year.

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[REDACTED]

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[REDACTED] India has previously asked for Krestas and Krivaks, but they are among the USSR's newer and more advanced surface combatants, and Moscow has need for them in its own naval modernization program. What type and class of ships the Soviets will provide is uncertain.

-- Maritime reconnaissance aircraft: The three IL-38 May aircraft which the Soviet Union has reportedly agreed to supply to India are scheduled to be in-country by 1977.

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[REDACTED] Production of the IL-38 ceased in 1974, and about 50 are in the Soviet inventory. The Indians expressed interest in acquiring Mays after a Soviet offer in August 1972 to provide six BE-12 Mails the following year brought no results.

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-- Minesweepers:

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[REDACTED] India will receive its first Soviet minesweepers in 1976. The total number of these units--listed as Yurka class fleet minesweepers--to be supplied is unclear. India has asked for as many as six minesweepers

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[REDACTED]

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-- Patrol guided missile boats: India reportedly will obtain a total of three Nanuchka class guided-missile patrol boats--one in late 1976

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[REDACTED]

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and the remaining two in the first half of 1977. To date no Nanuchkas--which first became operational in 1970--have been exported by the USSR, and the Soviet navy currently has only a dozen in service plus one under construction and three fitting out. The initial report of New Delhi's request for this type of Soviet naval combatant dates from January 1974, when the Indians asked for two to four improved and modified 800-ton missile boats. 25X1C

- Antisubmarine warfare helicopters: The USSR apparently has agreed to provide the Indian navy with four KA-25 Hormone A antisubmarine helicopters, and [REDACTED]

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[REDACTED] the number may be increased to seven. [REDACTED]

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[REDACTED] A delivery schedule has not been disclosed. [REDACTED]

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- VLF communication system: [REDACTED]

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A team of Soviet specialists visited India in the spring of 1971 to review possible site locations, discuss technical matters, and determine the cost of the system, but talks were subsequently stalled by disagreements over technical specifications--the Indians wanted longer range capabilities than the Soviets thought necessary.

- V/STOL aircraft: India's requirement for Soviet V/STOL fighter aircraft apparently will remain unfulfilled. The Soviet V/STOL fighter will not enter operational service until 1976, and the USSR is unlikely to export any for many years. Moscow has generally disclaimed that it could supply suitable replacements for India's carrier-borne fighters.

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Problems in Arrangements with USSR.

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_____ numerous complaints by the Indians about Soviet naval aid, including charges of inferior equipment, delays in delivery, understated need for maintenance and repair, meager supplies of oils and lubricants, and shortages of spare parts.

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_____ the Soviets responded only halfheartedly to appeals for badly needed spare parts during the months preceding the 1971 war. From the Indian point of view, the Soviets have charged dearly for certain operational spares and for special modifications such as are required in tropicalization of ships. And at times the Indians have been unable to make satisfactory repairs or even to request replacement parts because equipment was accompanied by too little technical data.

Anxious to avoid the political perils of dependence on a single arms supplier, India has been circumspect about its naval ties with the Soviets. The Indians have sought to confine the interchange to that dictated by their needs and have fended off attempts to develop their relationship into anything approaching the intimacy of the erstwhile Indo-British association. Although the Indians would like to enhance their ability to use Soviet-supplied ships effectively, chariness about sharing tactical information--probably mutual to some extent--has so far precluded joint naval exercises. _____

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_____ Indian rejection of Soviet proposals to establish joint naval facilities--a station for monitoring submarines or an oceanographic research installation--or to conduct joint hydrographic surveys.

New Delhi has refused direct Soviet requests for long-term use of Indian port facilities for berthing, provisioning, and repairs. In keeping with its stated policy of nonalignment, India has chosen to clear Soviet naval ships for port visits on an ad hoc, individual basis, as it does ships of other nations. The Soviets' suggestions that their presence in the Indian Ocean is fostered in part by concern for Indian security have failed to obtain favored treatment. Moscow probably will use the proposed expan-

sion of US facilities at Diego Garcia as an argument for obtaining use of Indian port facilities, but New Delhi likely will again refuse.

An Indo-Soviet treaty, covering search for and recovery of space objects, was under negotiation from late 1972 until at least mid-1974, but appears to have stalled. The treaty would have accorded the Soviets very limited use of certain Indian port facilities and airfields in nonmilitary operations. Under the terms of a number of explicit restrictions on Soviet activities, only those ships engaged in space-related operations were to be allowed to call at Madras and either Cochin or Bombay, and for no more than 15 days during any one of a maximum of six annual exercises. The USSR would have had to request use of the facilities two to three days in advance except in an emergency.

There were several points of contention in the negotiations, but also New Delhi may have become suspicious of Soviet motivations for the treaty, possibly seeing it as an attempt to obtain facilities to support reconnaissance operations. The Indians declined to commit themselves to joint operations and sought to impose strict controls on the use of TU-95s in the operations. The Soviets pushed for a formal, five-year treaty with an automatic renewal clause, whereas the Indians sought a less binding annual exchange of letters. India also denied a Soviet request in May 1974 for parking space for aircraft--a TU-95, four AN-12s, and two helicopters --to be used in a training exercise over the Indian Ocean.

Western Arms. India has maintained an active interest in Western naval equipment--particularly aircraft--although purchases have been curtailed by foreign exchange problems and, for nearly a decade, the arms embargo. India bought 12 Sea King ASW helicopters from Britain and three Alouette-III helicopters* modified for ASW operations from France,

* These were purchased prior to the start of licensed production of these aircraft in India.

but efforts to find Western replacements for its naval fighters have thus far been futile. Prospects of acquiring a naval version of the Anglo-French Jaguar fighter-bomber fell through when the manufacturers decided not to pursue its development, and the arms embargo prohibited procurement of US-made A-4 Skyhawks. Because India may believe that a request for A-4s would imply its acceptance of the new US arms policy in South Asia, New Delhi is unlikely to ask for any, at least in the near term. Besides, the Indians reportedly are considering purchase of the British Harrier V/STOL, possibly in the next year or two, but they have been discouraged by cost and foreign exchange considerations. These factors have also deterred them from following up their interest in maritime reconnaissance aircraft, such as the French Breguet-Atlantic and the British Nimrod.

Domestic Production. Although Indian spokesmen have long proclaimed the merits of self-reliance in naval production, the effort has been accorded a small share of the budget and a generally low priority. In 1960 New Delhi bought Garden Reach Workshop in Calcutta and Mazagon Dock in Bombay for defense production projects. Expansion and improvement of these shipyards and the development of indigenous naval technology have proceeded gradually. Most of India's naval production has been under foreign license. The Naval Design Organization was established in the naval headquarters in 1970 to develop India's capabilities for designing ships. Its accomplishments to date include designs for survey and landing craft and small patrol boats.

India's most important naval construction program --the building of Leander class destroyer escorts under British license at Mazagon Dock--has proceeded fitfully. Construction has been protracted because of delayed shipment of imported parts,* slow domestic production of components, and the dearth of skilled personnel. The first ship in the series, the Nilgiri,

* Foreign components make up 50 percent of the first unit in this series and will constitute at least 20 percent of the last.

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was laid down in mid-1966, launched in late 1968, and entered service in mid-1972--over two years behind schedule. The second, the Himgiri, was commissioned in late 1974. The third and fourth are now fitting out and are expected to be commissioned in late 1975 and 1976 respectively.

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India's lack of money has thus far blocked conclusion of an agreement with British or French ship-building firms for a license to construct antisubmarine corvettes. Negotiations have been conducted intermittently since the late sixties.

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the Indians would purchase a few units outright but would seek to construct most of the ships in India. New Delhi at one time hoped to have some of these ships operational in the mid-to-late seventies.

Financial considerations have also hindered India's negotiations with Sweden for a similar deal to purchase and produce under license A-14 coastal submarines.

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New Delhi has sought Soviet aid--apparently without success--for a program to design and produce minesweepers, guided missile frigates, and coastal submarines. Design guidelines and extensive requirements for training, technical assistance, and supplies were officially submitted to the USSR in a protocol signed in March 1973. The ships listed in the protocol were cited as those that would meet India's defense needs in the eighties and nineties.

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in mid-1973 the Soviets sent India design manuals for two surface ships. as of late 1973, the Soviets were still studying the Indian request. But in late July 1975

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the Soviets have refused to provide India with the technology to build conventional submarines. Although frigates and minesweepers were not mentioned, Moscow probably is reluctant to help the Indians build them as well.

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Outlook

25X6 The Indian navy will remain the dominant indigenous naval force in South Asian waters. No local navy will be able to make the improvements needed to challenge its position. Pakistan is acquiring two destroyer escorts, three maritime reconnaissance aircraft, and antiship missiles, and it may seek a capability to construct attack submarines and missile-armed fast patrol boats. Still, its navy will remain far inferior. Both the Sri Lankan and Bengalee navies are tiny [REDACTED] in comparison with the Indian force, and they have little likelihood of significant improvement.

On the other hand, the Indian navy in the foreseeable future is unlikely to develop into an instrument capable of major influence beyond its regional waters or of contending with US, Soviet, or [REDACTED] 25X6 French naval contingents in the greater Indian Ocean. Nonetheless, the equipment that New Delhi will receive under the 1975 Indo-Soviet arms agreement will gradually upgrade the navy's capabilities over the next several years. Replacement of some of the over-aged Super Constellations with IL-38s will enable the navy to conduct more effective maritime reconnaissance operations.* The inventory of minesweepers may be substantially increased, and the navy will be able to deploy some at bases other than Bombay. Depending on the weapons fit of the major warships to be supplied, the antisubmarine, antiship, and air defense capabilities of the navy could be enhanced. The Indians requested that those ships be equipped with short-range surface-to-surface and medium-range surface-to-air missiles in addition to improved sonars, torpedoes, and ASW rockets. In any case, the Indians now appear more likely to have at least some ocean-going platforms for antiship as well as antiaircraft missiles, and two of these ships probably will function as flagships for the navy's Eastern and Western Fleets.

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India's political ties with Moscow are unlikely to become any closer as a result of New Delhi's continuing reliance on the Soviet Union for naval equipment. Soviet-manufactured ships already constitute about 50 percent of the Indian navy's inventory of combatants and auxiliaries. Precisely because of its dependent position, New Delhi will be sensitive to any Soviet attempt to exact a political price, such as the granting of base rights, for the supply of weaponry. The Indians are probably unwilling to make a major reversal in their policies for the purpose of obtaining naval arms and equipment. Still, Moscow is likely to be on the alert for any opportunity to procure special privileges, although it recognizes that the Indians have been cautious and distant throughout the long history of cooperation. And the Soviets may well wish to avoid pressing too hard in the relationship--one that is of strategic value to them.

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Ships in the Indian Navy

Number	Type	Class	Builder	Name
1	small aircraft carrier	Majestic	UK	Vikrant
2	light cruisers	Fiji	UK	Mysore
		Leander	UK	Delhi
2	ASW helicopter	Leander	India	Nilgiri
	destroyer escorts			Himgiri
17	destroyer escorts	Petya	USSR	Androth
				Anjadip
				Arnala
				Andaman
				Amini
				Kadmatt
				Kamorta
				Katchall
				Kavaratti
				Kiltan
		Whitby	UK	Talwar
				Trishul
		Leopard	UK	Beas
				Betwa
				Brahmaputra
		Blackwood	UK	Kirpan
				Kuthar
8	submarines	F	USSR	Kalvari
				Karanj
				Khanderi
				Kusura
				Vela
				Vagli
				Vagir
				Vagsheer
8	large guided missile boats	Osa	USSR	Nashak
				Nipat
				Nirbhik
				Nirghat
				Veer
				Vidyut
				Vijeta
				Vinash

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Ships in the Indian Navy

Number	Type	Class	Builder	Name
4	patrol escorts	modified Black Swan River	UK UK	Cauvery Krishna Tir
5	patrol boats	Hunt II Poluchat-I	UK USSR	Godavari Pamban Panaji Panvel Pulicat Puri
2	small submarine chasers	Ajay	India	Abhay Atul
4	coastal minesweepers	Ton	UK	Cannanore Cuddalore Kakinada Karwar Bassein
3	inshore minesweepers	Ham	UK India India	Bhatkal Bulsar
1	tank landing ship	LST(3)	UK	Magar
3	medium landing ships	Polnocny-II	USSR USSR Poland	Gharial Guldar Ghorpad
1	submarine tender	Ugra	USSR	Amba
1	submarine rescue	T-58	USSR	Nistar
1	small oiler	(single ship)	Italy	Shakti
1	replenishment oiler	(single ship)	W. Germany	Deepak
4	survey ships	(single ship) River modified Bittern	India UK UK	Darshak Investigator Jumna Sutlej
1	fleet ocean tug	Gaj	India	Gaj
1	small repair ship	Three Island Park	Canada	Dharini

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